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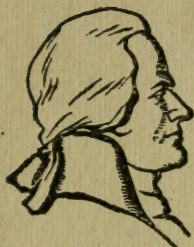
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[Modern business talks]

REDUCING THE BURDEN

There is no safer guide for business policies in productive industry than an exact knowledge of costs.



MODERN BUSINESS
TALK No. 20

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Reducing the Burden

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READING ASSIGNMENT

The current Reading Assignment consists of three parts: (1) this Talk, (2) Chapters X to the end of Volume 10, "Cost Finding," and (3) Problem No. 10.

The greatest benefit to be obtained from a diligent reading of good business literature is not always the knowledge which is acquired. More frequently it is the habit of reflection. Habits can not be gained by irregular and spasmodic exercise. To bear its best fruit reading should be systematic. Hurried reading gives no time for reflection and analysis. The present assignment is one which requires careful patient consideration. Where good reading habits have already been formed, it will be found a powerful stimulant to intensive thought.

Reducing the Burden

The principal problem of cost finding is so to assign the expense or burden that each article shall bear its own share and only its own share. — Pages 139-140, Chapter X, Volume 10 of the MODERN BUSINESS Text.

The annual sales convention of the Hennesy Mining Machinery Company was in session. In the company's spacious assembly room were seated nearly one hundred of the men who day by day were creating outlets for the company's products. Under the stimulating influence of the organization spirit which pervaded the convention, and inspired by the enthusiasm of the president, the sales manager and other officers of the corporation, a number of the men had related their experiences of the past year and in the general discussion which followed important principles had been deduced for the guidance of the selling force during the approaching new year.

The sales manager, who officiated as chairman of the meeting, now spoke:

"I'm going to call upon a man whose success in selling our product may be traced, I think, definitely to his knowledge of costs. He has perhaps more than many of us realized the close connection between a knowledge of costs and the sale of our machinery.

Mr. Hanson, will you tell us about the sale of those twenty machines to that Illinois coal miner whom we never had been able to impress with our products?"

At this a quiet and unassuming man arose from his seat and carefully placed his half-smoked cigar upon the near-by table edge.

"I don't know how much my talk on costs had to do with the order I got from Henry Scott, tho I used up nearly a dozen sheets of paper and wore the points of half as many pencils in proving to him that the Hennesy Mining Machinery Company was only asking for an opportunity to reduce his costs.

"I had gone into that Illinois bituminous coal region with our mining machinery and had done a fair amount of business when I met Scott, who owns and manages the Danville Forty-four. When, after looking over his equipment, I told him he needed some \$13,000 worth of our stuff, he simply raised his hands, shook his head, and said, 'Absurd!'

"However, I myself had long been convinced that since competition necessarily lowers prices, the only chance for profit lies in lowered costs. This as you know, is especially true of the coal mining business. So I showed him some figures I had prepared. Scott is a man who is keen for profit, and if you can show him a way to make money, he always listens. But you have to have your figures right or he'll stop you in a minute. I had learned that before I called on him."

The salesman went on to tell how at Danville

Forty-four they had been in the habit of "shooting off the solid"—a process both dangerous and expensive—and how that fact alone had convinced him that the Scott cost system was a crude affair. Very likely it didn't go much beyond keeping a record of the material and the direct labor.

"This," continued the speaker, "is how I finally put the point to old man Scott: 'You agree with me, Mr. Scott, that the greatest opportunity for profit in your business lies in making the fullest possible use of your six plants—in other words in obtaining the largest output at the lowest operating expense'?"

"Of course, Scott agreed to that. 'But,' said he, after glancing over my figures, 'when I have paid for the operation of those machines you want to sell me, how much of a saving will there be in my pay roll? How much less will it cost to operate those machines than to use hand labor?'"

"Now I knew that when Scott figured the interest in his investment in my machines and added a fair amount for depreciation, the saving would not loom up so large as to make him especially eager to buy the equipment. As a matter of fact, his chief saving did *not* lie in cheaper operation on the present volume of output. So I picked up my pad and pencil once more.

"'Mr. Scott,' I said, 'you turn out about seven hundred tons a day here, I believe, and you work on an average two hundred days a year?'"

"'Just about.'"

“‘Your costs for these 140,000 tons are roughly speaking \$73,000 for labor’?

“‘Very nearly.’

“‘And your burden including pumping, ventilating, transportation, supervision and depreciation of the mines comes pretty close to your labor cost’?

“‘He admitted that it came very close.

“‘As a matter of fact, your total cost is about \$1.02 per ton and you sell it at an average of \$1.05. Is that right’?

“‘Yes sir, and the profit isn’t nearly enough. Show me how to double that and I’ll fill up this place with your machines.’”

The speaker went on to tell how he had shown by his figures that the installation of twenty machines would entail a yearly expense of about \$9,000 for interest, depreciation, fuel and operation, against which he could show a gain of only \$980 a year, at which showing the mine owner had again become indifferent, as the prospect of investing \$13,000 against a probable yearly gain of less than \$1,000 did not strike him as very alluring.

“‘Wait a minute, Mr. Scott’, I said. ‘Suppose I show you how to decrease your costs by increasing your output’?

“‘You can’t do it. Our limit is 700 tons a day, since that means a man working at every available wall space. We have two men in each of our sixty rooms and about forty men on narrow work. There is room for no more.’

“‘Mr. Scott’, I said, ‘you are a practical man. Your present output of 700 tons can be made with ten of our machines. This leaves wall space for twenty more machines if you want them. But let us say that you instal at this time only twenty. That will double your present output by giving you a yearly average of 280,000 tons. Your labor cost will be about \$126,000, your burden not to exceed \$100,000, and your operation costs figured liberally, \$17,500. That will bring the total cost down from \$1.02 to about \$0.87 per ton and increase the yearly net profits from the present \$4,200 to approximately \$50,000’.

“Mr. Scott said nothing, but took the pad out of my hands and went over the figures several times. Finally he looked up and said: ‘What are your best terms for twenty machines’?

“All I need add is that the same evening Henry Scott’s order for twenty machines was mailed by me at the Danville post office.”

The salesman resumed his seat while everyone present applauded.

Profits in Developing Existing Resources

One important thing brought out in the salesman’s talk was the importance to the manufacture of making the fullest possible use of his existing plant. Unquestionably, the successful manufacturing plant is the one in which all the resources for profits are thoroly utilized. The trend of the times in industry

is toward the "small farm well tilled." Again and again it has been shown that greater returns are realized from the thoro operation of a small plant than from the slack operation of a larger one. But this is only another way of saying that under our competitive system low cost is usually the factor that enables the business to thrive. The modern manufacturer must study his cost sheets just as carefully as the mariner studies his compass and chart. Possible shipwreck and ruin are the penalties in either case for neglecting these precautions.

Another point is illustrated by the salesman's talk. The Danville miner could possibly have been induced to buy thirty machines instead of twenty. But the result, tho apparently favorable to the company, would in the end have proved an injury. You can't go on doubling profits by doubling equipment. Sooner or later a point is reached when additional machinery is unable to earn its own upkeep. The thing to know is when that point is reached. Had the Danville miner bought thirty machines, he could not have operated them all profitably. Some of them would have had to remain idle while he was making his blasts, clearing away the coal, and putting in his timbers. Such idleness means higher costs. It isn't the number of machines a man has on his premises that determine his earnings, but the number of machines that are profitably employed. He will no doubt add one or two machines from time to time, but this will be based upon

a close study of cost sheets to determine the effect upon the net earnings of the machines added.

This incident shows the importance of cost study as an adjunct of selling. Such knowledge enables a salesman to approach his prospects with the assurance of being able to help them solve one of their greatest problems—their costs.

The importance of making the fullest possible use of the fixed plant applies especially to staple products. In the manufacture of novelties or patented articles, inefficiency in operation is sometimes offset by the distinctive character of the product, which makes it possible to sell it at a high price—at least until competition has come in to beat down prices. But in staple goods the price is always fixed by the cost of production of some plant, so that the only possibility of profit lies in the ability to produce at lower cost than some competitor. When this condition is attained, profits are certain and operation is made possible even in dull times.

Proprietor's Benefits From Cost Reduction

When the manufacturer or merchant reduces his cost of production, he not only benefits himself but he performs important service to his fellow men in that he makes possible a higher standard of comfort for them. When this is achieved by means of, say, a mechanical device, the benefactor is given the right to patent his device and thus to reap his reward. Eventually, the entire benefit of the improvement is transferred to the world at large. Similarly, im-

provements in organization or management reward their originator with profits obtained from reduced costs. When Andrew Carnegie and Charles M. Schwab designed the first continuous rail rolling mill, not only were they themselves benefitted, but important services were rendered society thru an increase of its productive power.

But just as thru imitation or improvement patented inventions often become valueless long before the expiration of the patent period, so it often happens that the gains of organization and management are imitated or improved by competitors until costs are lowered thruout an entire industry and the selling prices brought down, thereby passing on the gain to the consumer. It is not so many years since the first continuous rail mill was designed, yet today it would be impossible to find a steel mill not built upon this plan. As a result, the cost and selling price of the rails are reduced. But no one can say that this price may not before long be reduced still further. For all we know, the plant which now has the lowest costs may lose its advantage tomorrow, since competitors may at any time improve the present process of production.

The present reading assignment is, in the first instance, devoted to a discussion of the factors that enter into expense or burden. Here we find one of the most interesting aspects of Cost Finding, and one that greatly affects the accuracy of the results. Faulty reasoning with regard to the items

that should be included under this term has deceived many a manufacturer into thinking that a certain shop or a certain machine was a revenue maker when the opposite was the case. A proper distinction between administrative expense and selling expense, and a correct distribution of these items over the products are among the subjects contained in these chapters.

Helping Competitors

At first glance it might seem that under a competitive industrial system the manufacturer would fare best whose competitors had the poorest cost systems. But this is not so. For while Smith, the printer, may be glad to know that he buys his stock cheaper than his competitors, Brown and Grey, and that his machine costs and operating expenses are lower than theirs, he does not take much pleasure in knowing that their inexact cost figures may lead them to underbid him in competition for work. For even tho his competitors lose money on the job, their lower bids will have robbed him of an order for which he bids at a price that afforded a fair profit. Hence, business to a certain extent has become altruistic. The modern manufacturer and merchant is anxious that his competitors should know what their costs are, and he will generally do all he can to help them find out.

In line with this thought, a manufacturer some time ago published in a trade journal his entire system of cost finding. His object in doing so was, as

he believed, good business policy, since it would tend to reduce the number of cases where work is taken at too low a price. He said that contractors (in the building line) often find, when bids are opened, that some of them are much lower than the cost of the work warrants. Of course, this is due to the bidders' ignorance of costs, and it is for the purpose of reducing such destructive competition that the information was published.

When the Interstate Commerce Commission found it necessary to enjoin upon the railroads the adoption of a uniform system of accounting, a long step was taken in the direction of lower operating costs. For now every railroad manager may study at his leisure the costs of other railroads, and thereby obtain valuable information as to where his own costs are too high. In the operation of railroads, fixed charges form a large portion of the total operating costs, hence the latter are certain to be high unless the road is used well toward the limit of its capacity.

It is not enough to know the elements of expense. It must be distributed among the various products which make up the factory product. How this is done occupies several chapters, a careful reading of which affords a clear insight into some of the problems which frequently perplex the business executive.

How Many Know Their Costs?

Investigation conducted by the Federal Trade Commission brought to light some astonishing facts

with regard to the degree of efficiency with which business is generally conducted. Among other things the Commission, as expressed by Mr. Edward N. Hurley, formerly a member of that commission, reached the conclusion that:

Only ten per cent of our manufacturers and merchants know the actual cost to manufacture and sell their product; forty per cent estimate what their costs are, and fifty per cent have no method but price their goods arbitrarily. Most of the manufacturers and merchants who do not know what their goods cost, are basing their selling price on what their competitors sell for, and with only this knowledge for a basis they are frequently cutting prices and demoralizing the industry in which they are engaged.

One of the chief advantages of the trust, so-called, lies in its ability to secure low costs by comparison of parallel operations in a number of plants. Usually, every plant develops a high degree of efficiency in some one form of operation, even tho in others it be low in the scale of comparison. The trust thereupon by a comparison of cost sheets, locates the "hundred per cent" spots, and proceeds to standardize the methods whereby these were attained, and to instal them in all the other plants where similar operations are conducted. Under such circumstances, the cost sheets become a very important document.

The Ready-Made Cost System

At a later point the author reminds us that one of the purposes of modern Cost Finding is "to serve as a basis of predicting future performances." To

this subject he devotes the remaining four chapters, in which is found a wealth of material for those who may be called upon to plan a scientific cost system.

One thing to be borne in mind in this connection is that the value of such a system depends upon its close adaptation to the business in question. You can't depend upon a ready-made cost system to do the work satisfactorily. As a rule it has to be "made to order." Existing conditions in the plant must first be carefully considered.

At times complaint is made that a cost system installed by a self-styled expert has proved impractical and misleading. A case in point is that of a middle western manufacturer who, shortly after the installation of a cost system, discovered that a certain article which he had made for years was entirely unprofitable. He promptly discontinued its manufacture, congratulating himself that his new cost system was stopping a costly leak.

A short time afterwards his cost accountant laid before him figures which plainly showed that another article was being sold at just about manufacturing cost. As there is no profit in selling at cost, the article was promptly struck from the list of goods manufactured. Twice within the next few months similar discoveries were made and with the same result. Then came the annual statement from the accounting department, and much to his surprise, the manufacturer found that the year's profits were considerably lower than those of former years. The

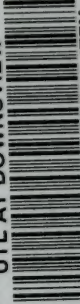
accountant's figures were carefully gone over, but they were found to be correct. The cost accountant's calculations were also checked with the utmost care without discovering any material error. Then it dawned upon the proprietor that his new cost system might be at fault. Investigation showed that this was in fact the case. The man who had installed the system had omitted to take into consideration several important factors peculiar to the plant and its product. As a result, the system did not tell the truth.

The manufacturer at once began preparation of a cost system based upon existing records and experiments conducted in his plant by his own men. In due time this was installed with the result, among others, that three of the four articles which had been discontinued were again included among the factory's products.

The effects of competition upon profits has led to a closer study of the utilization of existing resources. "The wastes of yesterday are the profits of today." A narrowing profit margin under the influence of keen competition is putting to work the ingenuity of business men to devise new avenues of profits and to reduce to its lowest point the factor of waste. Ultimately, it may be possible to utilize so thoroly the resources of a business, that it shall in this respect resemble the hog at the Chicago stock yards of whom it is said that nothing is wasted except the squeal.

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